Mere Measurement "Plus": How Solicitation of Open-Ended Positive Feedback Influences Customer Purchase Behavior

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Abstract

In two studies (a longitudinal field experiment with an established B2C national chain, and a field experiment with a B2B software manufacturer), we demonstrate that starting a survey with an open-ended positive solicitation increases customer purchase behavior. Study 1, a longitudinal field experiment, showed that one-year following the completion of a survey that began by asking customers what went well during their purchase experience, customers spent 8.25% more than customers who completed a survey that did not include the positive solicitation. In Study 2, we utilized multiple treatment groups to assess the step-wise gains of solicitation, measurement, and solicitation frame. The results demonstrated (a) a mere solicitation effect, (b) a traditional mere measurement effect, and (c) an additional "mere measurement plus" effect of an open-ended positive solicitation; all effects increased customer spending. Specifically, starting a survey with an open-ended positive solicitation resulted in a 32.88% increase in customer spending relative to a survey with no open-ended positive solicitation. The findings suggest that firms can proactively influence the feedback process. Soliciting open-ended positive feedback can create positively biased memories of an experience; the subsequent expression of those memories in an open-ended feedback format further reinforces them, making them more salient and accessible in guiding future purchase behavior.

Soliciting customer feedback has become so prevalent that many customers expect it as a standard element of the purchase process. This prevalence is a result of substantial investment in marketing research by firms, totaling more than $10.6 billion (Bowers and Brereton 2015), with more than $750 million set aside specifically for assessing issues like customer satisfaction (Inside Research 2012). When soliciting customer feedback, firms may ask a series of closed-ended questions or simply ask customers what they liked or didn't like. What companies actually do with all this information has been scrutinized for some time (Fornell and Wernerfelt 1987; Homburg and Fürst 2005). However, an overlooked aspect of this trend for requesting feedback is how the structure of such solicitations ultimately affects customers. Companies are hungry for customer feedback, but do they understand how their requests for feedback can influence their customers' attitude and behaviors?

We contend that requests for feedback indeed influence customers' attitudes and behaviors in important ways (Malhotra 2007).[1] Research on mere measurement effects shows that simply measuring consumer intentions impacts actual behavior (Morwitz, Johnson, and Schmittlein 1993). We build upon this, and propose that companies that start a survey by asking customers to recall something positive about their purchase experience increases subsequent sales. We propose that firms can experience an additional lift in spending above the mere measurement effect, essentially creating a "mere measurement plus" effect. This positive effect could emerge even if an initial encounter was not uniformly positive, because soliciting positive feedback at the beginning of a survey can guide a customer's memories in a way that stimulates more positive attitudes and behaviors. In this research, we examine how the structure of such surveys might affect subsequent sales. We investigate the impact of soliciting open-ended

[1]The focus of this work is on solicitation of open-ended feedback. Open-ended response formats allow respondents to provide, in their own words, answers to questions. For work focusing on the differences between open-ended and closed-ended question formats, see Carlson et al. (2009).

positive feedback on purchasing behavior, above and beyond mere measurement effects (i.e., above the gains achieved with asking for only closed-ended feedback). In two field experiments, we find that starting a survey with an open-ended positive solicitation does indeed increase purchase behavior. Specifically, in Study 1, we test the effect of such positive solicitation on repurchase, by soliciting feedback from customers of a business-to-consumer (B2C) chain via a phone survey. In our second study, we examine the customers of a business-to-business (B2B) software company and isolate the incremental purchase gains captured by closed-ended surveys and surveys that include an open-ended request for positive feedback.

Customer Feedback

Customer feedback provides an ideal opportunity to engage customers and promote loyalty. Solicited or unsolicited, customer feedback consists of the information and insights that firms gather from customers about their product and service experiences. In instances of unsolicited feedback, customers initiate communication to express their ideas, satisfaction, or dissatisfaction. In contrast, solicited feedback refers to firm-initiated communications that seek customer feedback on products and services (Challagalla, Venkatesh, and Kohli 2009).

Previous investigations of customer feedback have largely focused on the use of customer feedback, rather than solicitations of it (Fornell and Wernerfelt 1987; Homburg and Fürst 2005; Voorhees, Brady, and Horowitz 2006). However, more research is exploring more proactive approaches to feedback in which companies actively solicit, monitor, and respond to feedback to promote product innovation, enhance service, and improve satisfaction (Challagalla, Venkatesh, and Kohli 2009, Griffin and Hauser 1993; Morrison and Bies 1991). These kinds of proactive efforts give companies the opportunity to engage customers and manage the customer

experience.[2] Customers who are asked to provide feedback on their experiences perceive service interactions as more efficacious and, in turn, become more satisfied with the service rendered (Berry and Leighton 2004; Morrison and Bies 1991; Ping 1993). Nonetheless, prior investigations regarding proactive solicitation of feedback have not explored how asking customers to recall positive aspects of the experience influences customer purchase behavior.

Recent research on business practice, based on a survey of 813 companies, found that 86% of companies gather some type of feedback from their customers, with the overwhelming majority soliciting general or negative feedback (MarketTools 2010). Similarly, the vast majority of academic research on customer feedback has also focused on negative feedback, or complaints, rather than on positive feedback, such as compliments (Gelbrich and Roschk 2011). Given the predominant focus on negative feedback by both companies and scholars, customers have been conditioned to equate feedback with criticism. For example, Ofir and Simonson (2001) found that when consumers were asked to evaluate a service experience, they became extra vigilant during the service delivery process, expecting that the company wanted a critical assessment, and consequently gave greater weight to negative events. Thus, even expecting that one will be asked to evaluate a provider's performance after a service encounter can result in enduring negative attitudinal changes.

Recognizing the prevalence of soliciting feedback in the marketplace and the powerful effect of putting customers in an evaluative mind-set, we believe that such framing of feedback requests demands more thorough investigation. We define solicitation frame as the valenced cue incorporated in an open-ended solicitation prompt. For example, asking customers what they liked about their experiences constitutes a positive solicitation frame, while asking what they did

[2] Two key issues facing marketing managers, as noted in the Marketing Science Institute's most recent research priorities (MSI 2014).

not like would represent a negative solicitation frame. We propose that soliciting open-ended positive feedback elicits positively biased memories, and expressing these memories makes them more accessible and results in more positive subsequent purchase behaviors.

Psychological Measurement Effects

In recent decades, consumer psychologists have noted "question–behavior effects" in studies of consumer behavior (Perkins and Forehand 2010). As opposed to research on self-prophecy, which focuses on socially normative behaviors, mere measurement research focuses on normatively neutral behaviors (Dholakia 2010). Field studies in this area have shown that simply having customers complete a closed-ended survey can influence subsequent behaviors (e.g., Fitzsimons and Morwitz 1996). While concerted efforts have explored boundary conditions of measurement effects such as category and firm experience, respondent and firm characteristics, and the nature of the focal behavior (Dholakia 2010), few investigations have considered the framing of the questions themselves. Given how positive (or negative) questions shape attitudes (Moore et al. 2012), we contend that managers can amplify mere measurement effects to reap more positive benefits from their feedback efforts.

Most field investigations of mere measurement effects tend to rely on attitude accessibility as the underlying driver of subsequent consumer intentions and behaviors (Fitzsimons and Mortwitz 1996; Dholakia 2010; Morwitz and Fitzsimons 2004), but when attitudes about past experiences are accessed, it can be as much about recreation as retrieval. Memory is highly malleable; the process of remembering itself can rescript and reconsolidate our memories (Sara 2000). The questions that prompt the retrieval process in the first place can modify our perceptions of the past (Loftus and Palmer 1974). As Zaltman (2011) explains, episodic memory is far from fixed: "every act of remembering involves a reconstruction of information" (p. 42). Further, in this reconstruction process, "we add on feelings, beliefs, or even

knowledge obtained after the experience" (Schacter 2001, p. 9). Thus, the framing of solicitation for feedback guides the retrieval process and provides a new lens through which both the past and the future can be viewed. Consequently, we expect that when consumers are asked to recall positive aspects about a shopping experience, retrieval and distortion processes will combine to produce a newly fabricated (and more positive) perception of the past.

Retrieval and recreation are not the only processes at play when consumers are solicited for positive open-ended feedback. The open-ended format that invites them to then articulate these reconstructed memories also produces "memory persistence" (Yarbrough et al. 2013). When memories are reconstructed and subsequently verbalized, the contents become even more vulnerable to external factors, namely the questions that elicited them in the first place, and the quality of the memory itself is also enhanced (Schacter 1996, 2001). Therefore, giving consumers the opportunity to express their positive memories via an open-ended feedback format should make them more salient and accessible in guiding future purchase behavior than memories that were merely accessed (but never verbalized) in close-ended surveys.

In summary, a starting a survey with an open-ended positive solicitation – asking customers to recall something positive about their purchase experience – selectively filters a positive search through memory. As customers reconstruct and then articulate those positive memories, it fuels positive purchase intentions that have an observable impact at the cash register. Thus, we hypothesize that a starting a survey with an open-ended positive solicitation will lead to greater repurchase behavior than a survey soliciting closed-ended-only feedback.

Overview of Studies

While there have been a few notable studies examining mere measurement via field experiments (e.g., Fitzsimons and Mortwitz 1996; Borle et al. 2007; Dholakia and Morwitz 2002), to our knowledge, no field experiments in this realm have sought to understand the effects

of open-ended feedback solicitation. To remedy this, we conduct two field experiments that investigate how starting a survey with an open-ended positive solicitation influences purchase behavior, rather than the traditional approach of only asking for closed-ended feedback. We first conduct a longitudinal field experiment with a well-established national chain. This study demonstrates the effects of a starting a survey with an open-ended positive solicitation (versus a survey with no such open-ended solicitation) on actual repurchase behavior and long-term financial outcomes (Study 1). The design allows us to control for variables such as nonresponse bias and mere participation effects, and also to utilize the company's transactional data to control for history effects (Krishnamurthi, Narayan, and Raj 1986) such as the customer's previous service experiences (positive or negative) and past purchase behavior. Our second field experiment (Study 2) investigates the effects of starting a survey with an open-ended positive solicitation on total spending in a short-term (30 days) B2B context, as well as baselining this effect against a hierarchy of measurement effects.

Study 1. Longitudinal, B2C Field Experiment: The Effect of an Open-Ended Positive Solicitation on Subsequent Repurchase Behavior

Study 1 was developed to test the impact of a starting a survey with an open-ended positive solicitation (compared to no such open-ended solicitation) on actual repurchase behavior for 12 months following the survey manipulation, while controlling for the effects of mere measurement identified in prior research (Morwitz and Fitzsimons 2004). In the following section, the details presented follow the guidelines set forth by Simmons, Nelson, and Simonsohn (2011).

Method

To test our proposed effect in the field, we conducted a longitudinal field experiment with customers of a large U.S. portrait studio retail chain who invites all customers, after each

service encounter, to participate in a customer survey by calling the toll-free number printed on their receipts. For their participation in the survey, respondents received a promotion to be applied to their next visit. In collaboration with the retailer and their third-party provider of the feedback hotline, we agreed to modify their current feedback survey for one fiscal quarter (or three months) where we would assign customers who called the feedback hotline to one of two treatments. This time period was determined to be an adequate time frame to fill cell sizes and to not disturb the trend analyses that this firm uses in reporting to senior management. To be included in the sample frame, consumers must: (1) have had a transaction during our test period and (2) have completed a post transaction survey in the past. The requirement for completing a survey in the past was employed in an effort to reduce any potential selection bias related to individuals who may be predisposed to never provide feedback.

Those customers who accepted the solicitation invite called the toll-free number and were then assigned to one of two experimental conditions. In the open-ended positive solicitation condition, customers (n = 7260) were given an open-ended prompt (asking what went well during their most recent visit) at the beginning of the survey. All other survey questions and order were identical to the baseline condition. In the other condition, the remaining respondents did not receive the open-ended positive solicitation (only the closed-ended feedback questions) and thus represented the baseline condition in this experiment (n = 14,468).[3] Following the positive solicitation in the treatment condition, and at the onset of the closed-ended survey condition, respondents evaluated their experience based on a series of binary, operational questions, as well as measures of product and service quality (see Appendix A for a complete listing of all of the survey items that were collected and not reported here). Although all

[3]The participating company requested that we assign only one-third of the customers to the positive feedback condition. Because of firm constraints, we could only test positive feedback versus closed-ended only feedback conditions.

customers were invited to participate in the feedback survey, not all chose to do so during the study period. To control for this, as suggested by Chandon, Morwitz and Reinartz (2005), we also included customers who chose not to participate in the survey during the fiscal quarter of our experiment (n = 5,338). Thus, our total sample consists of 27,066 customers (open-ended positive: n = 7,260; closed-ended only: n = 14,468, and those who opted not to complete the survey in the treatment period: n = 5,338).

We predicted that starting a survey with an open-ended positive solicitation (POSITIVE) would influence the degree to which customers would repurchase within one year of the solicitation, after we controlled for any effect from mere measurement (SURVEY) (e.g., Morwitz and Fitzsimmons 2004). We also controlled for the cumulative nature of the customer's past experiences (positive or negative), and past purchase behavior, allowing us to incorporate historical aspects of the customer's relationship with the firm.

The key dependent variable in this study was total sales revenue per customer one year after the solicitation of feedback (SPENT$). We obtained longitudinal customer-level transaction data from the retailer. Given the nature of the service and typical inter-purchase times, we deemed one year an appropriate time frame. We controlled for the effect of past patronage of the service by using the previous year's actual purchases one year before the solicitation (PAST$). Also, we controlled for historical customer experience quality by including measures of customer perceptions of product and service quality gathered from surveys completed in the prior four years, excluding the current purchase in the treatment period. These measures included quality of the physical product (PQ) ("Rate the quality of your portraits") and quality of the service experience (SQ) ("Rate how well we treated you as a valued customer"). We measured both PQ and SQ using a five-point scale (i.e., "poor/fair/good/very good/excellent"). We used the PQ and SQ variables because, in prior research, the cooperating firm had identified these two

aspects of quality as most influential on repurchase. Using these historical averages (AVEPQ and AVESQ) allowed us to control for cumulative perceptions of the consumers (both those who completed a survey in the focal time period and those who did not) without having to use perceptual data from the focal survey that could potentially be influenced by the treatment. [4]

To test the robustness of our measures, we also developed a multifaceted measure of historic average quality assessment that combined historic PQ and SQ and items measuring perceptions of wait time, facility cleanliness, and employee friendliness from prior surveys completed by those in our sample. The results using the multifaceted historic average quality assessment are consistent with those presented here. We controlled for individual household income by using the most recent U.S. census data on average household incomes (INCOME). We gathered this information using customers' residential zip codes. Our model is as follows:

REPURCHASE$ = *f*(POSITIVE, AVEPQ, AVESQ, SURVEY, PAST$, INCOME)

where

REPURCHASE$ = total sales revenue one year following survey;

POSITIVE = 1 if open-ended positive solicitation, 0 if otherwise;

AVEPQ = historical average ratings of product quality on prior surveys from the customer over the prior four years, excluding the current purchase in the treatment period;

AVESQ = historical average ratings of service quality on prior surveys from the customer over the prior four years, excluding the current purchase in the treatment period;

SURVEY = 1 if survey in the treatment period) was completed, 0 if otherwise;

PAST$ = total sales revenue one year before survey; and

INCOME = average household income.

[4] We also estimated a model excluding non-responders, using PQ and SQ for the current survey, instead of AVEPQ and AVESQ. The results are the same as reported here, but are not included due to space limitations.

[Insert Table 1 about here]

Analysis and Results

We used OLS regression with REPURCHASE$ as the dependent variable, measuring the total sales revenue in the year following the survey. The chi-square test of the model was significant ($\chi^2 = 5820.73$, $p < .0001$, d.f. = 6). Table 1 details the regression results and descriptive statistics. Consistent with mere measurement effects (e.g., Morwitz and Fitzsimmons 2004), we found that survey completion (SURVEY) was a significant predictor of REPURCHASE$ (B = 82.52, $p < .001$). In support of our hypothesis, using an open-ended positive solicitation at the beginning of the survey (POSITIVE) contributed additional predictive power to the model (B = 7.78, $p < .001$), even after we controlled for the mere measurement effect (SURVEY), historic average product and service quality (AVEPQ, AVESQ), past purchases (PAST$), and INCOME.[5]

As a further test of the strength of the effect of the open-ended positive solicitation at the beginning of the survey on actual behavior, we analyzed a model with the number of transactions in the year following the survey (TRANSACTIONS). We computed a Poisson regression to analyze our model because of its robustness in accommodating the violation of the heteroskedasticity and normality of distribution assumptions associated with modeling count variables (Coxe, West, and Aiken 2009).[6] Using the Poisson regression model, we replaced the repurchase sales revenue criterion with a count measure of the total number of transactions one year after feedback solicitation. In addition, we controlled for SURVEY, AVEPQ, AVESQ, INCOME, and previous total transactions (PASTT). The results for TRANSACTIONS support those of REPURCHASE$; the model was significant ($\chi^2 = 10{,}922.82$, $p < .0001$, d.f. = 6). Again,

[5] We analyzed the model with no historic averages of product and service quality (AVEPQ, AVESQ) and the effects of the model were unchanged.

[6] Following Coxe, West, and Aiken's (2009) recommendations, we replicated the results using a negative binomial regression model as well; however, we report the Poisson regression results here.

after controlling for SURVEY, AVEPQ, AVESQ, PASTT, and INCOME, the results indicate that an open-ended positive solicitation frame (POSITIVE) adds additional predictive power to the model (B = .08, $p < .01$).

Examining the Sales and Transactions Lift across Survey Groups. We assessed the magnitude of the effect using average revenue per customer across the POSITIVE (open-ended positive solicitation) and the closed-ended-only feedback groups. In the year following the treatment period, customers in the open-ended positive solicitation condition ($M_{\text{positive frame}}$ = \$143.16) spent, on average, \$10.91 more than customers in the closed-ended-only feedback condition ($M_{\text{closed ended only}}$ = \$132.25), an increase of 8.25% in spending. Further, opening a survey with a positively framed, open-ended question yielded, on average, \$81.18 more than customers that opted not to complete the survey, an increase of 130.98% in spending.

We compared the actual impact of POSITIVE on TRANSACTIONS using the raw scores for TRANSACTIONS. Customers who received the open-ended positive solicitation had, on average, 2.60 transactions in the year following the treatment, which translated into 8.79% more transactions than customers in the closed-ended-only condition ($M_{\text{closed ended only}}$ = 2.03). Furthermore, compared to customers that opted not to complete the phone survey ($M_{\text{opted not to complete the survey}}$ = 1.05), those customers in the positive-open-ended solicitation condition had 59.62% more transactions.

Robustness Checks. We conducted robustness checks to determine whether the historical average perception measures of quality used in our model and the amount of feedback elaboration influence our results.

To test the robustness of our results given that we controlled for historic average perceived customer quality perception, we replaced AVEPQ and AVESQ with more objective ratings of the photographs (QUALITY) as measured by the store manager for the purchase in the

treatment period. This check was done to ensure that these historical survey measures of product and/or service quality were not somehow masking the true effect of the open-ended positive frame on REPURCHASE$. Managers were asked to rate the quality of the photography on approximately 10% of the total sittings in their studios using a survey instrument that was independent of the treatment surveys and other archival measures already reported. Managers were trained to be expert observers to assess the quality of photographs across the different stores in the retail chain. Managers were asked to assess the quality of the photography using five items (expression, eye direction, creativity, posing, and use of props). Responses to these items were given using a five-point scale (i.e., "poor/fair/good/very good/excellent").
OLS regression results for REPURCHASE$ further validate our models such that the effect of SURVEY and POSITIVE were unchanged. See Appendix B for full results.

Second, we tested whether the effect of soliciting open-ended positive feedback was driven by the elaboration or the total word length of the feedback given by the customer. We counted the total number of words in the feedback given by each individual in our treatment condition (WORDCOUNT) and included this as a control variable in the model. OLS regression results confirm that the amount of feedback elaboration is not driving the open-ended positive solicitation effect in the model. See Appendix C for full results.

Post Hoc Assessments

In order to assess if the focal effect (i.e., beginning a survey with an open-ended positive solicitation) also held when assessing simple customer conversion (i.e., 0/1 indicator of repurchase in the 12 months following the survey), in addition to total spending, we conducted a follow-up logit analysis. The model for this post-hoc test included the same suite of independent and control variables as the main analysis and the dependent variable was purchase conversion where 0 = no purchase and 1 = purchase in the 12 months following the survey. The results

indicated a significant effect ($b = 0.07$, $p < .05$) that was consistent with the core research proposition (opening a survey with a positively framed, open-ended question resulted in higher conversion).

To extend these results, we conducted a second follow-up analysis to assess if total spending increased conditional on repurchase (i.e., once a customer converted did they spend more). For this analysis, we ran a final regression model that was restricted to the sub-sample of consumers who had made a purchase that included the same independent and control variables and total spending as the dependent variable. The results revealed a significant effect for our treatment ($b = 7.32$, $p < .05$), suggesting that conditional on conversion, a positively-framed open-ended question at the beginning of a survey can result in higher total spending too. Taken together, the results suggest that the focal treatment is effective in increasing both conversion (repurchase) and spending once customers repurchase.

Discussion

This longitudinal field experiment provided robust support for our hypothesis that opening a survey with a positively framed, open-ended question will lead to greater repurchase behavior than soliciting closed-ended-only feedback. After controlling for the mere measurement effect, past total sales revenue (and transactions), historic average product and service quality, and individual income differences, we found that when customers are solicited for open-ended positive feedback at the beginning of a survey, they are more likely to repurchase, in terms of both dollars spent and actual visits in the year following the treatment period. To our knowledge, this is the first longitudinal investigation of the effects of open-ended positive solicitation on actual purchase behavior. By giving customers the opportunity to express their positive views, firms encourage them to reflect on the positive aspects of their experience, which in turn leads to increased repurchase behavior. As with many field studies, some of our constraints create

limitations. Specifically, we were not able to have a "true" control group of individuals who were not invited/solicited to take the survey. We address this limitation in our next study.

Study 2. B2B Field Experiment: Assessing the Mere Solicitation, Measurement, and Measurement Plus Effects

Study 1 allowed us to assess the impact of starting a survey with an open-ended positive solicitation on real customer behavior. Due to constraints with the cooperating firm, we were not able to assess the baseline effects of mere solicitation (comparing the spending of a pure control group that receives no survey invitation to a group of customers who received a request to complete a survey, but do not respond) or some aspects of mere measurement. Thus, we could not establish a "true baseline" to compare the effects of the positive solicitation frame against.

To test this complete hierarchy of mere measurement effects, we developed a field experiment with a B2B software manufacturer. This study examines how open-ended positive solicitation can drive increased spending through a less personal medium (i.e., online survey) where social biases should be less pronounced. It uses a shorter time horizon by investigating customers' response to a 30-day sales promotion across all treatment and control conditions.

Method

To test the effect of starting a survey with an open-ended positive solicitation on purchase intentions and behavior, we partnered with a B2B software manufacturer that continually tracks customer feedback among all free trial users of their software. In order to test the hierarchy of mere measurement effects, we developed an experimental design that created four customer groups (see Figure 1). These customer groups consisted of a pure control group that was comprised of customers who were never asked to complete a survey. Then, we identified a group who was invited to complete the survey, but opted to not provide feedback. The final two groups consisted of customers who received a survey invitation and opted to complete the survey. Half

of these customers completed a closed-ended survey that was consistent with traditional mere measurement studies and the other half completed the survey that began with the positive solicitation request. This design allowed for a series of contrasts that tested the hierarchy of mere measurement effects by sequentially testing control and treatment groups across this design for each comparison. Figure 1 provides a graphical overview of the experimental design and references how each experimental group was treated in the analysis stage.

[Insert Figure 1 about here]

With respect to the execution of the field experiment, customers were included in the design as soon as they downloaded a free trial version of the software program. At that point, customers were assigned to either no survey (the pure control group), the survey that began with the positive solicitation request, or the closed-ended survey with no solicitation. A thirty-day experimental window time period was selected based on a balance between the costs of deploying the experiment and a forecast that ensured adequate cell sizes for the primary experimental groups.

During the experimental window, 18 days following a free trial download, 60% of users were emailed a link to a trial satisfaction survey (please note, no incentive was provided to users for completing the trial survey) and 40% of the users were not sent a survey, so they could be used as the control group for the mere solicitation contrast. Those who clicked on the link to take the survey were assigned to one of two survey paths. In the positive solicitation condition, customers were directed to a survey with the following open-ended prompt: "Please tell us what you particularly liked about your trial experience with this software offering." Following this question, respondents completed a short battery of questions assessing their purchase intentions, perceptions of the relationship, and other classification questions. In the other survey condition,

customers were not asked for open-ended positive feedback, but simply directed to the battery of questions.[7]

Three days following the mailing of the survey, all trial users, whether or not they were sent the survey or accessed it, were sent a unique promotional code connected to their user account for 20% off the purchase of the software product. The promotional code could be applied to a single order of up to three software licenses and expired 30 days from the time of its mailing. We tracked purchases using customer email addresses and the unique promotional codes for 30 days following the circulation of the promotion. The total spend for each customer was used as the dependent variable in the analyses.

The firm's e-mail management software allowed us to track if the survey invitation and sales promotion emails were received and opened by respondents. Any respondents who did not receive and open the messages were excluded from the final sample to ensure that all respondents in the sample frame had experienced the manipulations (i.e., accessed the invitations as well as the sales promotion). In total, survey invitations and promotional codes were sent to and received by 8,460 customers during our experimental window; our holdout sample who did not receive the survey link, but were sent the promotional incentive, was comprised of 10,628 customers. Upon review of the survey results and CRM data provided by the firm, we identified 76 users who had already purchased the software product prior to our survey mailing, thus they were removed from the sample, resulting in a usable sample size of 8,384 customers with 49 percent of the users being assigned to the closed-ended control condition and 51 percent assigned to the treatment group with the open-ended positive solicitation. This ultimately resulted in four sub-samples that would allow us to test mere solicitation, mere measurement, and the open-

[7] The battery of questions at the start of the survey included purchase intentions, word of mouth, willingness to defend the brand, perceptions of the communal relationship, and a variety of classification questions as well as a question to opt into a consumer insights panel. Mean comparisons for all the other variables are presented in Appendix A.

ended positive solicitation effects: customers who were never sent the survey link (this provides a true baseline to assess mere solicitation effects; N = 10,628); customers who received, but chose not to take the survey (i.e., mere solicitation treatment group and mere measurement control group; N = 8,198); customers completing the survey with only closed-ended questions (i.e., mere measurement treatment group and positive solicitation control group; N = 90); and customers completing the survey that opened with a positive solicitation (positive solicitation treatment group; N = 96).[8] The response rate during the experimental window was consistent with those traditionally experienced for this and other tracking surveys conducted by the manufacturer. All four subsamples received the promotion code to purchase a software license. Figure 1 provides graphical overview of the experimental procedure as well as all experimental conditions.

Analyses and Results

The experimental design allowed us to create four groupings that provide a nested hierarchy where comparisons from the pure control group up through the positive solicitation frame treatment group could be compared to assess the effects of solicitation, measurement, and solicitation frame. As a result, the effects of each manipulation on customer spending were tested using planned contrast. The comparison groups are shown in Figure 1. Specifically, we tested three focal contrasts to test the effects. The first contrast assessed the mere solicitation effect by comparing the group of customers who were never sent a survey invitation with customers who received the survey, but chose not to respond. The results of this contrast revealed a significant

[8] We found no evidence for any selection effect between these two conditions: response rates were comparable (no significant difference) and bounce rates were also not significantly different across the two conditions. Specifically, we experienced only 1 non-complete in positive solicitation control condition (mere measurement treatment group) and 2 non-completes in positive solicitation treatment condition, thus a chi square test assessing differences in bounce rates across the conditions was not significant, $p = 0.588$). We also found no evidence for an elaboration effect in the positive solicitation treatment condition (word count was not significantly related to purchase behavior, $r = .057$, $p = 0.584$). Given the constraints of the partnering firm, we were not able to assess if there were selection effects related to opening of the email messages versus deleting them immediately.

solicitation effect ($t = 11.45$, $p < .01$), as the mean spend for the group of customers who were never asked to complete a survey was $0.17, while the group that received the survey, but chose not to respond was $1.27. The second contrast assessed the mere measurement effect by comparing the treatment group from the first contrast to the group of customers who opted to complete the survey and were exposed to a traditional satisfaction survey that only consisted of closed-ended questions without the positive solicitation. This contrast exhibited a significant *measurement* effect ($t = 7.75$, $p < .01$) as the mean spend for the survey group without the positive solicitation was $6.66 compared to the $1.27 for customers who received the invitation, but opted not to participate in the survey. Finally, the third contrast assessed the positive solicitation effect by contrasting the mean spend of the group who completed the closed-ended survey without positive open ended solicitation versus the group who completed the survey that opened with the positive solicitation. This contrast revealed a significant *positive solicitation* effect ($t = 2.27$, $p < .05$) as the mean spend for the positive solicitation group ($8.85) was significantly higher than the mean for the closed-ended survey group ($6.66). The results of these contrasts are presented graphically in Figure 2.

[Insert Figure 2 about here]

Post Hoc Assessments

Similar to Study 1, we conducted a series of post-hoc tests to assess if the focal effect (i.e., beginning a survey with an open-ended question with a positive solicitation frame) also impacted conversion and spending conditional on conversion. However, given that our binary event of interest (purchase) was relatively rare and only occurred for 12.9% of the sample, we adopted rare events logistic regression, which Sridhar et al. (2015) advocates and was originally introduced by King and Zheng (2001). Rare event logistic regression corrects for rare event biases and standard error inconsistency, thus providing more accurate estimates than traditional

logistic regression models. The model for this post-hoc test was straightforward and include a single dummy coded independent variable where 0 = control survey that opened with a battery of closed-ended questions without a frame and 1 = survey that opens with an open-ended question that has a positive solicitation frame. The dependent variable was purchase conversion where 0 = no purchase and 1 = purchase. The results indicated a non-significant effect ($b = 0.11$, $p > .05$) that was directionally consistent with the core research proposition. Overall, the results suggest that the open-ended positive solicitation at the beginning of a survey drives total spending and is directionally consistent with conversion.

For the analyses regarding total spending conditional on conversion, we ran additional contrasts (similar to the main study) for the subset of customers who converted. The results revealed effects that were similar in size to Study 1 and directionally consistent with our proposition, but not significant ($b = 10.82$, $p > .05$). Taken together, these results suggest a similar pattern to Study 1, and it appears that the treatment's effect on total spending is driven by a combination of conversion and higher average spend after conversion, i.e., it influences both whether and how much they buy. Although directionally consistent, it is possible that the results of these post hoc analyses in the second study were not statistically significant simply due to sample size considerations, but it could be due to the fact that Study 2 featured an online survey (rather than a phone survey), thus the effects could be more subtle, or the restricted time period for the purchase window in the second study could have constrained an opportunity to identify additional spending in the treatment group in the future.

Discussion

Study 2 extends the results of the first study by demonstrating the effects of starting a survey with an open-ended positive solicitation in an online (versus phone) survey, a B2B (versus B2C) context, and replicating the effects of mere solicitation and measurement as

baselines for our focal examination. The results of Study 2 reveal consistent support for all three effects (solicitation, measurement, and open-ended positive solicitation) and the pattern of the changes in spending across the four experimental groups reveals some interesting contrasts. Specifically, the relative magnitude of effects suggests the smallest lift for the mere solicitation effect ($1.10 gain from simply sending out a survey, even if no one takes it), then a substantially larger boost for the measurement effect ($5.39 gain if customers complete the closed-ended survey), and those gains can be further extended via the positive solicitation effect ($2.19 gain if the closed-ended questions are preceded by an open-ended request for positive feedback). These results are consistent with mere measurement studies that demonstrate the simple completion of intentions questions on a survey can result in a substantial change in behavior (e.g., Morwitz et al. 1993; Fitzsimons and Morwitz 1996). Our focal effects reveal that these measurement effects can be extended even further through positive solicitations. In fact, the results of the planned contrast tests reveal that total spending increased by 32.88% from the traditional closed-ended survey to the survey that starts with an open-ended positive solicitation.

General Discussion

Our two studies, a long term (1 year) B2C field experiment, and a short term (30 day) B2B field experiment, work together to show how beginning a survey with an open-ended, positively-framed question – asking people to recall what went well in their experience – impacts purchase behavior. In Study 1, our first longitudinal field experiment, firm archival customer transaction data and survey data were combined with a longitudinal field experiment to provide evidence of the effects of open-ended positive solicitation on repurchase behavior a year later for a national B2C chain. Then, Study 2 demonstrates a clear hierarchy of mere measurement effects, culminating with a significant positive solicitation frame effect for a B2B software company.

Theoretical Contributions

This work contributes to the customer feedback and question-behavior literature in several important ways. First, we show that an open-ended positive solicitation influences purchase and customer spending. We demonstrate that when customers share open-ended positive feedback at the beginning of a survey, they demonstrate behaviors consistent with their positive open-ended responses. This supports theory that customers act in ways that mirror their expressed opinions (Cialdini 1993). The typical approach to understanding customer attitudes often assumes that customers' perceptions are static once experienced—that is, in soliciting customer feedback, researchers simply try to capture the customer's image of that experience. In contrast, our field experiments reveal that customers' perceptions of their experiences are malleable and that an open-ended positive solicitation frame can encourage future customer spending. Building on prior research (Chandon, Morwitz and Reinartz 2005; Dholakia and Morwitz 2002; Liu and Gal 2011; Morwitz and Fitzsimons 2004), we found that the lifts in spending traditionally referred to as the *mere measurement effect* can be further enhanced by opening surveys with an open-ended positive solicitation frame, which we refer to as the *mere measurement plus effect*.

Finally, we also extend the work on mere measurement effect with the use of longitudinal field experiments (Study 1 and Study 2). Field experiments are conducted in noisy real world environments, with real customers, over a longer period of time (Dholakia 2010). While there have been a few notable studies examining mere measurement via field experiments (e.g., Borle et al. 2007; Dholakia and Morwitz 2002), to our knowledge, no field experiments in this realm have sought to understand the effects of open-ended positive feedback solicitation. Our field experiments use actual customer behavior as opposed to behavioral intentions or hypothetical questions. Study 1 demonstrates that when customers are solicited for positive open-ended

feedback, they exhibit greater repurchase, in terms of dollars spent, actual visits, and conversion (repurchase). Study 2 extends these findings by demonstrating that soliciting open-ended positive feedback translated into higher spending on software in the short-term. Further, there are stark differences between mere measurement studies done in a laboratory and those done in the field with real customers (Dholakia 2010). Lab studies seeking to explain mere measurement effects tend to focus on low priced, frequently purchased food items, such as candy (Morwitz and Fitzsimons 2004) and ice cream (Janiszewski and Chandon 2007), and self-reported dependent measures, such as choice or purchase likelihood (Dholakia 2010). We extend these studies by examining products with greater financial stakes. In Study 1 the average customer spent $128.24 one year following the treatment period and in Study 2 the average B2B customer spent $39.96 per software license during a 30-day experiment following a free-trial period. Taken together, the field experiments in this paper demonstrate the importance of extending decades of laboratory-based research by using field experiments to understand the actual behavioral impact of psychological measurement effects.

Managerial Contributions

What type of feedback should firms solicit? While many managers actively seek out customer feedback, very few understand the impact this action has on key customer outcomes. In today's online landscape, many firms provide customers with a method to contact them to give feedback. However, very few solicit positive feedback (e.g., compliments). A rare example of firms seeking compliments may be found on JetBlue's feedback portal, which has an entire section dedicated to sharing compliments (http://www.jetblue.com/contact-us/email/compliment/). JetBlue asks its customers, "If you have something nice to say, by all means—say it!" Across two studies, we demonstrate that using such an open-ended positive solicitation at the start of a survey results in positive outcomes for the firm. Soliciting open-

ended positive feedback increases customer purchase by encouraging them to focus on positive aspects of their service experience, rather than negative aspects. Based on our two longitudinal field experiments, this research demonstrates that a positive frame stimulates purchase behaviors in a way that yields clear financial benefits for the firm. Our results suggest that firms are wise to encourage customers to share positive feedback in reviews on sites such as Yelp!, Amazon, TripAdvisor, or to encourage customers to post YouTube videos of their positive product experiences (e.g., www.casper.com), as these reviews may not only encourage other customers to try the product (typically, their primary purpose) but such postings may also influence the authors of the reviews to purchase more in the future.

Implementing a positive solicitation strategy. Our experiments clearly demonstrate a financial benefit for the inclusion of open-ended positive solicitations in post-transactional surveys under relatively routine conditions. Given that adding such a question to a survey is a relatively cost-free addition, even small gains offer a clear financial benefit. Despite the clear financial benefits, firms should not rush to integrate these solicitation frames without complete consideration of the potential costs of doing so. More specifically, adding such solicitations could inflate ongoing tracking metrics and might also have adverse effects in situations when customers are hoping to express dissatisfaction and trigger a recovery effort through completing a survey.

With respect to this consideration, a deeper analysis of additional survey questions included on the tracking survey in Study 2 demonstrated a constant and significant lift in customer attitudes and intentions in the condition when surveys opened with a positive solicitation (see Appendix A). This suggests that adding such a solicitation to a well-established tracker could result in a significant shock to tracking results that could make tracking differences over time difficult. Specifically, in Study 2, purchase intentions in the open-ended positive

solicitation condition were 25% higher than the closed-ended only condition. As a result, firms would either need to artificially adjust these scores downward after completing a test period to ensure continuity over time or simply make an organizational decision that these scores will represent a "new normal" going forward.

Our tracking surveys were set in a context where the majority of customers were satisfied with their experiences with the firm and thus, few customers were hitting the survey following a significant service or product failure. That said, an additional post-hoc analysis for Study 1 suggests that even those who rated the product or service quality on their current visit as "poor" were influenced by the open-ended positive solicitation at the beginning of the survey. In the closed-ended only condition, those who rated the product quality for their current visit in the treatment period as poor (=1) spent $69.62 over the next 12 months, whereas those in the open-ended positive condition who rated their visit as poor (=1) spent $107.79 over the next 12 months, a 54.8% increase. This is consistent for service quality perceptions as well ($poor_{\text{closed-ended only}}$ =$63.81; $poor_{\text{open-ended positive}}$ = $120.92). Although not the focus of this research, these initial indicators suggest that open-ended positive solicitations may assist in reframing less than stellar customer experiences. However, our results can't speak to the potential benefits or costs or employing a positive solicitation strategy in extremely adverse conditions. More research is needed in this area before we completely understand the potential effects of asking customers to recall what they liked in such non-routine contexts.

Ultimately, if a firm feels comfortable with potentially influencing tracking scores and potential backlash for an occasional dissatisfied customer, adding positive solicitation frames to the beginning of post-transaction surveys appears to offer significant relational and financial benefits for firms.

Creating an opportunity for exploitation. While firms could benefit from the deployment of positive solicitation frames when making these decisions with complete information and foresight, these effects also create an opportunity for informed executives to manipulate the system. Specifically, given how subtle (and benign) a change adding a question like this appears to be to a survey, an ambitious customer experience or product management executive could implement a survey change, experience the benefits of the open-ended positive solicitation, and simply credit these bumps in spending and intentions to their leadership rather than the survey manipulation. As a result, firms must monitor closely all changes to their ongoing customer communication and feedback mechanisms to ensure that seemingly benign, unintentional edits aren't impacting performance and these performance swings are being attributed appropriately.

Potential dark side of open-ended solicitation. While not explicitly tested in our experiments, the underlying theory explaining the benefits of positive solicitation also suggests that firms that ask customers to focus on negative aspects of the experience through questions like "What could we do to improve our service?" could be inadvertently deflating customer attitudes and future spending. While more research is needed to demonstrate this effect, the positive effects found in our study are likely to be mirrored by comparable negative effects when companies prime open-ended questions in a way that focus customers on aspects of an experience that needed improvement.

Understanding the managerial value of field experiments. These field experiments represent a unique way to use data to help managers understand the financial impacts of soliciting positive, open-ended feedback. In Study 1, a longitudinal field experiment, when the firm used an open-ended positive solicitation to open their survey (versus closed-ended-only), it saw an 8.25% increase in actual spending over the 12 months (an increase of $10.91 per customer) and a 8.79% increase in total transactions over the next 12 months over and beyond

the mere measurement condition. Compared to customers who opted not to take the survey, soliciting open-ended positive feedback translated into an 130.98% increase in total spending over the 12 months (an increase of $81.18 per customer) and a 59.62% lift in total transactions over the same period. In addition, this field experiment allowed us to include critical control variables, such as product quality and customers' transaction histories, to demonstrate these results to be very robust.

In Study 2, were we able extend the results of Study 1 by demonstrating the effects of positive, open-ended solicitation at the beginning of an online (versus phone) survey, in a B2B (versus B2C) context, and had the opportunity to track short-term spending. The results of this investigation demonstrated a 32.88% increase in spending when consumers completed a survey with the open-ended positive solicitation versus surveys that did not include it. We also baseline this effect against a hierarchy of established mere measurement effects to better understand its relative impact on customer spending as shown in Figure 2.

Limitations and Future Research Directions

Although we examined feedback in several settings, we acknowledge the potential limitations of our research. This research investigated only solicited customer feedback, and, thus far, we only demonstrated it in two industry contexts. Additional work could explore the phenomenon and effects of unsolicited feedback on purchase intentions and behavior, particularly feedback that is shared on social networking websites and customer sentiments shared using Web 2.0 applications. For example, what is the effect of customer feedback offered without company solicitation? It would also be helpful to examine this effect in other contexts. For example, how might soliciting open-ended feedback on Facebook pages, brand communities, forums, and other social media sites influence the attitudes and behaviors of other customers? Further research could investigate how these conduits for publicly-shared, open-ended feedback

influence the extent, nature, and effects of unsolicited and solicited customer feedback. Another stream of research could examine the impact of feedback solicited by friends and third-party vendors, compared to the impact of company-solicited feedback.

Because companies cannot fix customer problems they do not know about, being receptive to negative feedback remains an important issue. However, this research does not investigate the effect of soliciting negative feedback using an open-ended solicitation. If such negative solicitations exacerbates customers' perceptions of problems and dissatisfaction, it would be important to understand if there are ways to solicit valuable customer advice or suggestions for improvement without necessarily triggering negative attitudes that will deter future spending. Research could also examine whether customers are less likely to report problems critical to product and service improvement when a positive or a neutral open-ended solicitation is used instead of a negative open-ended solicitation. Further, future research could examine whether positively framed, closed-ended questions might produce similar effects. A full orthogonal design that examines the effects of open-ended versus closed-ended feedback and positive and negative solicitations after varied service quality would provide a more comprehensive understanding of these issues play out.

Research on memory accessibility indicates that both retrieving and retelling (i.e., verbalizing) memories influences the content and salience of them (Schacter 1996). Although we provide some evidence that the extent of verbal elaboration doesn't appear to drive the effect, future research could examine whether the effect is driven more by the presence of the question and the internal elaboration it triggers in the mind of the customer, or whether it is the actual articulation of the feedback itself that reinforces the effect. Moreover, to what extent does the positivity of the sentiment expressed drive the effect? We also wonder how these effects play out with the passage of time. Recency might enhance the robustness of the effect, or alternatively,

open-ended positive solicitations may work especially well after time has elapsed and consumers have forgotten any negative details of an encounter and are eclipsed by the positive information they were asked to provide.

This research suggests that by giving customers the opportunity to express their positive views, companies can capitalize on increased spending. However, is it enough to solicit open-ended feedback, or should a company do more? Further studies should investigate whether companies must acknowledge solicited feedback to maintain the benefits over time. Expectations for acknowledgment might differ by the solicitation used and by the medium through which the interaction between the customer and the company takes place, such as by mail, e-mail, web, or telephone. For example, customers who offer open-ended positive feedback over the telephone during an automated survey might be less likely to expect acknowledgment than those who take the time to send thank-you letters through postal mail. Expectations for acknowledgment may be contingent on how positive or negative the customer experience was, whether or not the feedback was solicited, and the effort customers expended to provide the feedback.

Conclusion

Given the importance of customer repurchase to a company's viability and the time and money spent on customer relationship management, it is surprising that companies do not manage feedback solicitation more deliberately. Although the vast majority of executives believe that the customer experience is of critical importance, only 26% report having a systematic approach to collect and evaluate feedback (Temkin and Geller 2007). From our findings across both a B2C and B2B context, we advocate a more rigorous customer management system that goes beyond closed-ended surveys and reactively handling service failures, and instead grooms future customer behavior through proactive solicitation of open-ended positive feedback.

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TABLE 1

Study 1: Descriptive Statistics and Results

Effect of Open-ended Positive Solicitation Frame on Repurchase Dollars Spent (Controlling for Mere Measurement)[a]

Variable	Mean (SD)	B	SE	Wald	*p*-Value
Intercept	-	-76.67	7.69	99.38	.000
Open-ended positive solicitation frame (POSITIVE)	.27 (.44)	7.78	2.38	10.69	.001
Average product quality (AVEPQ)	4.52 (.74)	7.60	1.68	20.58	.000
Average service quality (AVESQ)	4.56 (.78)	4.58	1.58	8.46	.004
Completed survey (SURVEY)	.80 (.40)	82.52	2.66	964.65	.000
Previous one-year purchases (PAST$)	$149.59 ($184.21)	.40	.04	5,444.10	.000
Average household income (INCOME)	$51,047.51 ($19,601.58)	.00	.00	28.14	.000
One-year after purchases (SPENT$)	$121.32 ($184.47)				
One-year after transactions (TRANSACTIONS)	2.18 (3.02)				
Past transactions (PASTT)	2.49 (3.27)				

[a] Omnibus test and model fit: $\chi^2 = 5820.73$, $p < .001$, d.f. = 6, log-likelihood = –176672.83

FIGURE 1

Study 2: Experimental Procedure

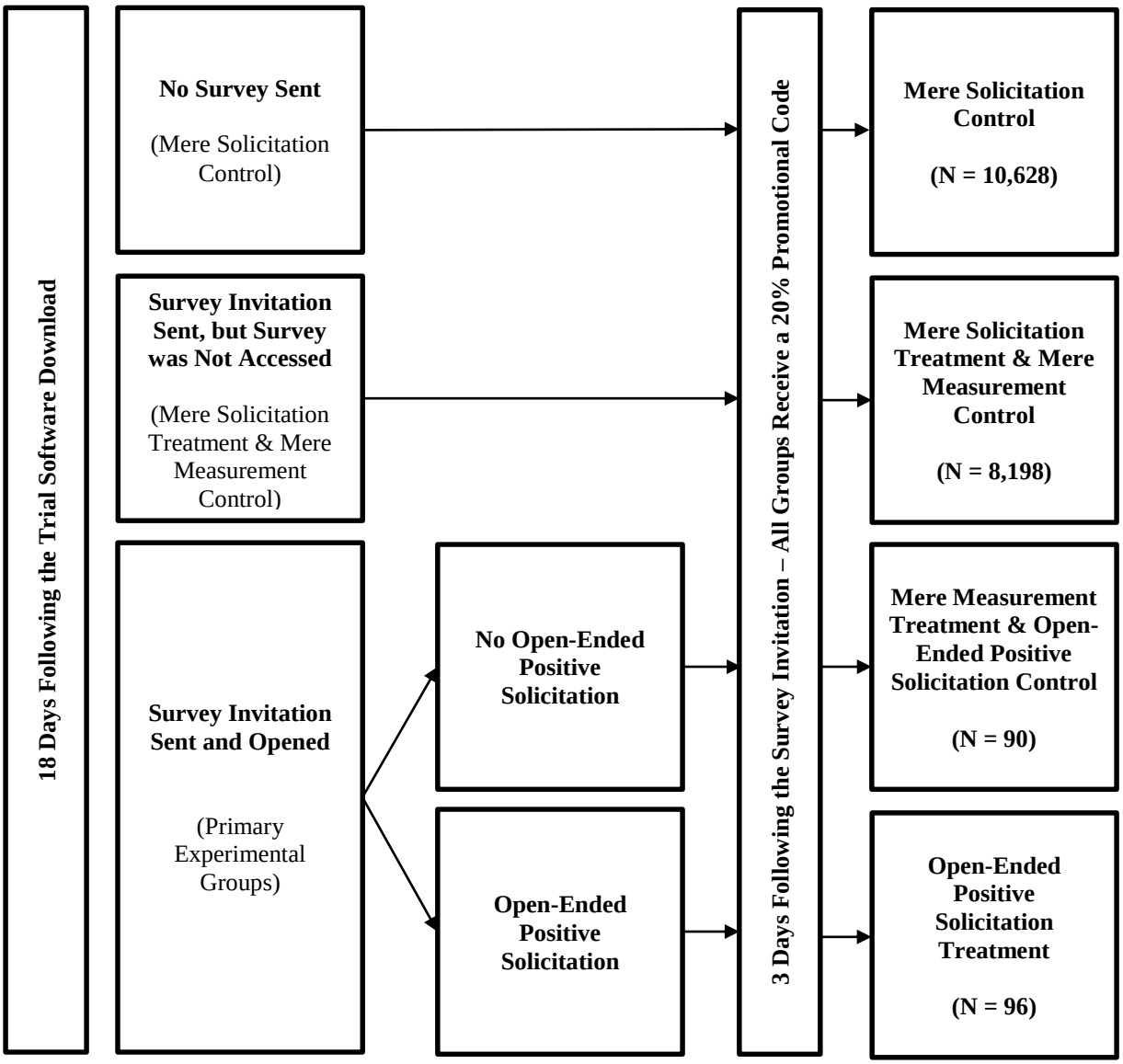
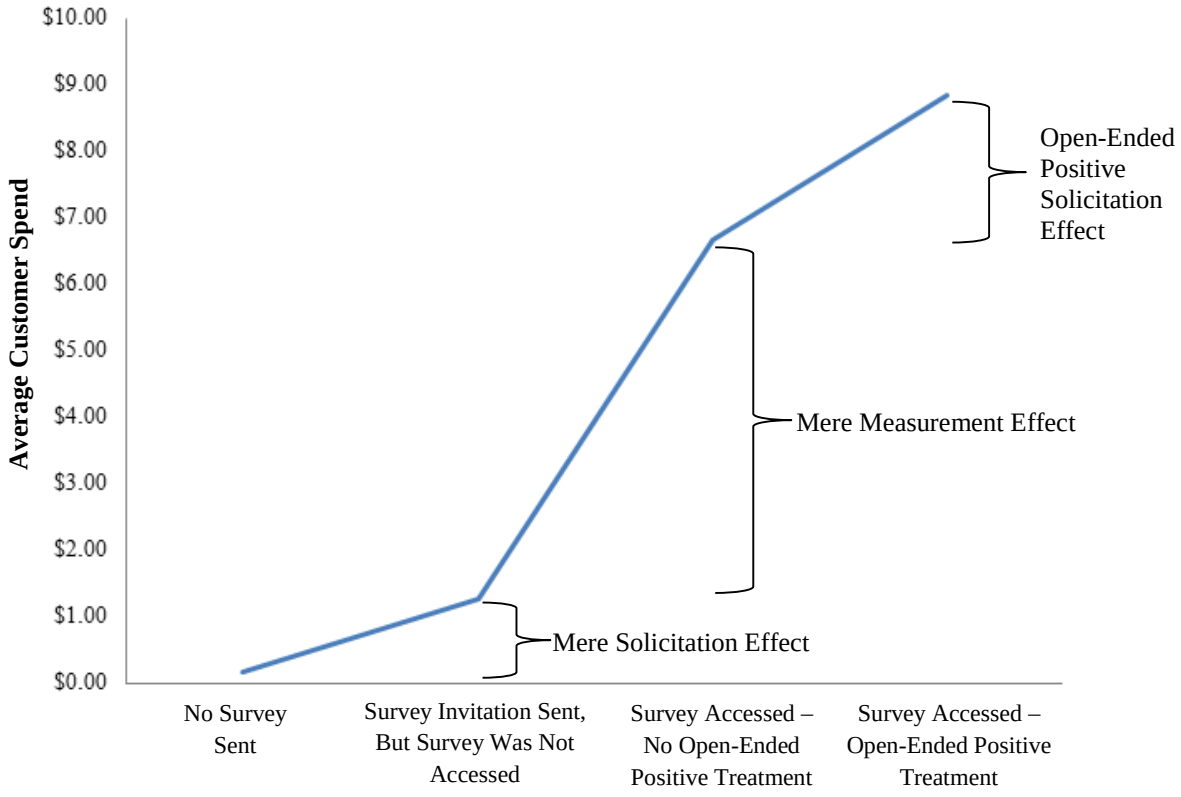


FIGURE 2

Study 2: Differences in Customer Spend Across Treatment and Control Groups



APPENDIX A

Experimental Disclosures for Studies 1 and 2

Following the recommendations set forth by Simmons, Nelson, and Simonsohn (2011), Appendix A provides additional details on the following issues related the research design, data collection, and analysis.

1. Rules for Terminating Data Collection
2. Minimum Cell Sizes
3. Listing of all Variable Collected
4. Reporting of all Experimental Conditions
5. Discussion of Eliminated Observations
6. Discussion of Covariates

In the following sections, we address each of these requirements for both Studies 1 and 2.

Rules for Terminating Data Collection

Study 1

Prior to data collection, we made the decision to run the field experiment for one fiscal quarter (3 months), and to collect customer-level purchase transaction data for one year following the end of the experimental treatment period. This decision was determined based on the requirements of the partnering firm to maintain continuity with their quarterly trend reporting, and to be able to see the effects of our experimental treatment.

Study 2

Prior to data collection we established that we would assign customers to experimental conditions for a 30 day period. This was selected as we would achieve cell sizes near 100, but also not be overly burdensome on the partnering firm for implementation. Following assignment to experimental conditions following the download of a software trial, the experimental procedure, as detailed in Figure 1, was implemented. This resulted in employing manipulations and ultimately tracking spending for a 30 day period that corresponded with the sales promotion.

Minimum Cell Sizes

For both studies, our cell sizes far exceed the minimum requirement of 20 observations (Study 1: > 5,300 per cell and Study 2: > 90 per cell).

Listing of All Variables Collected

Several attitudinal and intentions scales were included in both Study 1 and Study 2 that are not reported in the body of the paper. Next, we discuss both the items as well as provide plots of the mean scores across experimental conditions for each study.

Study 1

In addition to measuring service quality and physical product quality, the survey also assessed net promoter scores, customer confidence, wait time satisfaction and some operational checks. Items 1-8 were measured using five-point scales. There were five other yes/no measures to

assess employee compliance with service scripts and there were no significant differences in responses based on the experimental conditions. These items included: 1- “Did we offer you a promotional portrait package?” 2- “Did the associate who presented your completed portraits remember to call you by name?” 3- “Did he or she thank you and invite you to come again? 4- “Were you given a promotional offer to return at a future date?” 5- Were you made aware that you can customize your portraits and place your order on our website, _____?”.

Below, we provide the item used to assess each variable and then plot mean scores for Items 1-8 across the two experimental conditions in the design.

Net Promoter Score (Overall)

1. How likely are you to recommend _____ to your friends and family?

Net Promoter Score (Photographer)

2. How likely are you to recommend your photographer to your friends and family?

Customer Confidence

3. Please rate how confident we made you feel that you were going to have a satisfying experience with us.

Wait Time Satisfaction

4. How satisfied were you with the wait time before your photo session began? (pre-encounter wait time)

5. After the photo session ended, how satisfied were you with the wait time before viewing and selecting your portrait package? (in-process wait time)

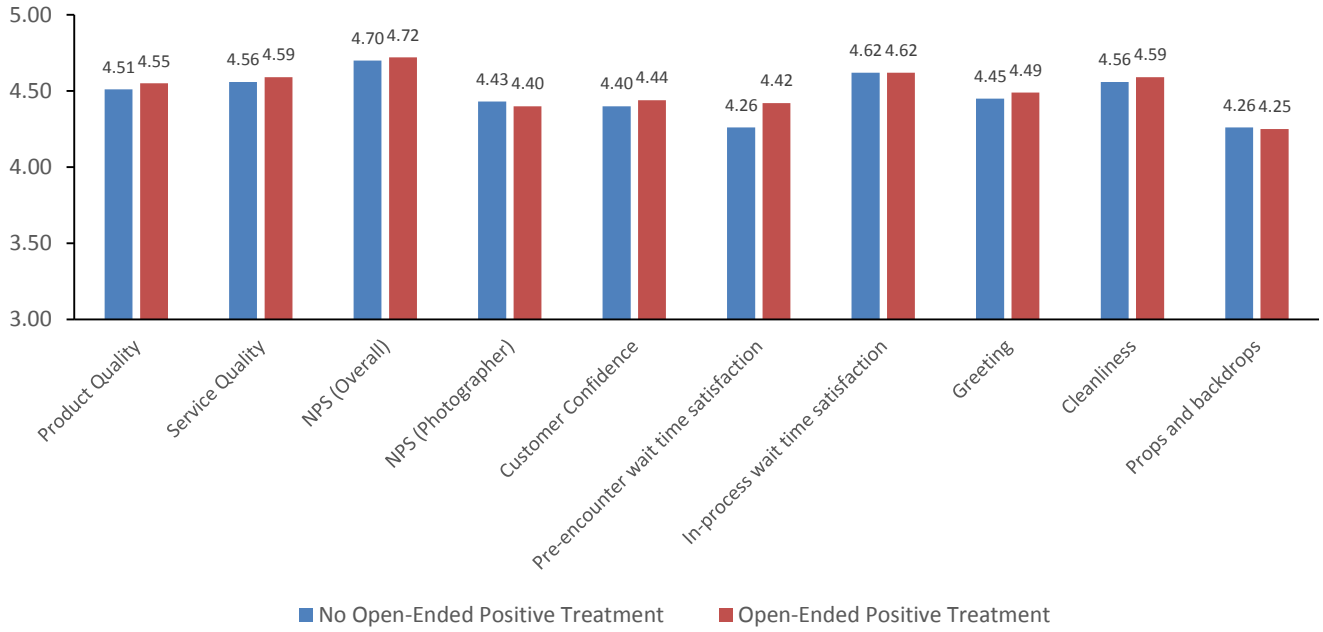
Operational Checks

6. Please rate how warmly we greeted you.

7. Cleanliness of the studio

8. Appeal and variety of props and backdrops

Study 1: Mean Comparisons Across all Survey Variables



Study 2

The survey for Study 2 including items that captured various relational measures on a 0 – 10 scale. Below, we provide the item used to assess each variable and then plot mean scores across the two experimental conditions included in the design.

Purchase Intentions

How likely will you purchase this software product?

Willingness to Recommend

How likely are you to recommend this software product to a business associate or colleague?

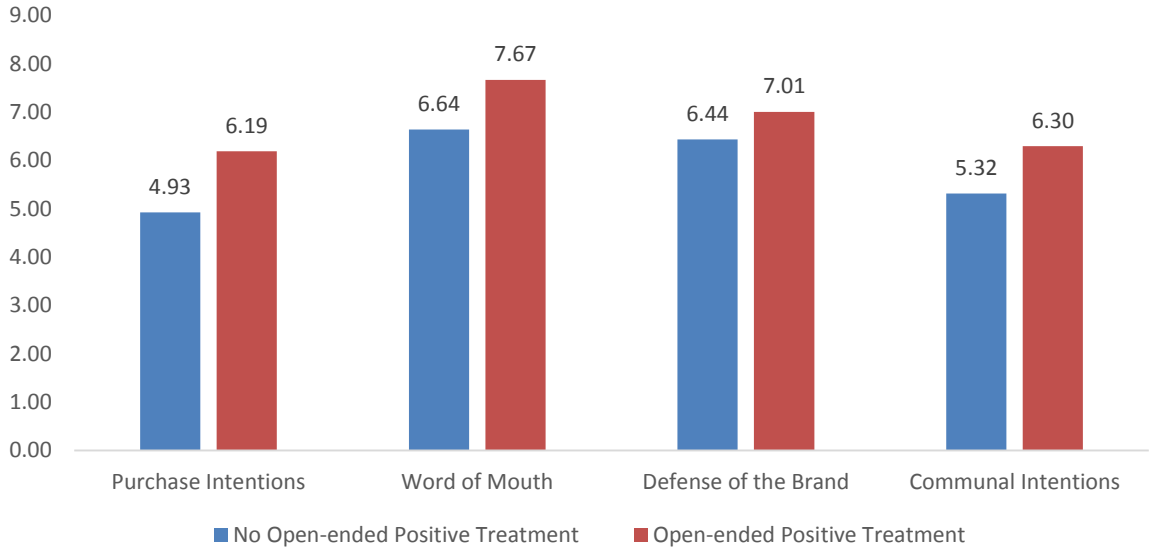
Defense of the Brand

If I heard someone speak badly about this software product, I would defend it.

Communal Intentions

I would really go out of my way to support this software provider in the future.

Study 2: Mean Comparisons Across all Survey Variables and Purchase



Reporting of All Experimental Conditions

All experimental conditions are reported in the body of the manuscript.

Study 1

All experimental conditions are reported in the body of the manuscript.

Specific conditions for being included in the sample:

1. Customer had to make a transaction during the three month transaction period.
2. Customer had to have completed at least one survey in the past four years.

This resulted in the following sample sizes and conditions:

Condition	**Sample Size**
Open-ended positive treatment condition	7260
No Open-ended positive condition	14468
Opted not to complete the survey during the treatment period	5338
Total	27066

Study 2

All experimental conditions are reported in the body of the manuscript.

Discussion of Eliminated Observations

Study 1

No observations were deleted.

Study 2

Two sets of observations were eliminated from the study prior to analysis. First, we excluded respondents to whom our emails were not received or opened. This was tracked using the partnering firm's email management software. We opted for this elimination rule as it ensured that respondents included in the panel had experienced the manipulations. Ultimately, if these respondents are included, it simply results in the addition of evenly distributed "0s" across cells, thus the results are not affected. Second, we removed any respondents from the sample who had purchased the software product prior to the solicitation of the survey responses as their prior purchase pre-dated the experimental treatment.

Discussion of Covariates

Study 1

Separate models were run that removed the following covariates: average product quality, average service quality, household income, and past purchases. The following table, details the main effects for Study 1 when all covariates are removed and demonstrate that the effects of the hypothesized variables are consistent with those reported in the body of the manuscript.

Study 1 Robustness Check for the Effect of Positive Open-ended Solicitation Frame on Repurchase Dollars Spent (No Covariates Included)

Variable	**B**	**SE**	**Wald**	***p*-Value**
Intercept	61.98	2.49	620.47	.001
Open-ended positive solicitation condition (POSITIVE)	10.92	2.61	17.43	.001
Completed treatment survey (SURVEY)	70.27	2.91	582.61	.001
[a] Omnibus test and model fit: $\chi^2 = 716.33$, $p < .001$, d.f. = 2, log-likelihood = –179,225.04				

Study 2

No covariates were included in the analysis.

APPENDIX B

Study 1 Robustness Check for the Effect of Open-ended Positive Solicitation Frame on Repurchase Dollars Spent (Controlling for Objective Ratings of Quality)

Variable	B	SE	Wald	*p*-Value
Intercept	**35.57**	**41.19**	**.75**	**.39**
Open-ended positive solicitation condition (POSITIVE)	**63.76**	**25.64**	**6.19**	**.01**
Completed treatment survey (SURVEY)	**85.46**	**11.29**	**57.26**	**.000**
Previous one-year purchases (PAST$)	**.37**	**.03**	**186.38**	**.000**
Average household income (INCOME)	**.00**	**.00**	**1.12**	**.29**
Objective Ratings of Quality (QUALITY)	**-8.83**	**9.52**	**.86**	**.35**
[a] Omnibus test and model fit: $\chi^2 = 242.17$, $p < .001$, d.f. = 5, log-likelihood = –4,821.73;				

APPENDIX C

Study 1 Robustness Check for the Effect of Open-ended Positive Solicitation Frame on Repurchase Dollars Spent (Controlling for Word Count in the Feedback Given)

Variable	B	SE	Wald	*p*-Value
Intercept	**-77.11**	**7.69**	**100.49**	**.000**
Open-ended positive solicitation condition (POSITIVE)	**9.58**	**2.83**	**11.48**	**.001**
Completed treatment survey (SURVEY)	**82.53**	**2.66**	**964.87**	**.000**
Previous one-year purchases (PAST$)	**.40**	**.01**	**5413.30**	**.000**
Average household income (INCOME)	**.00**	**.00**	**28.30**	**.000**
Total word count of feedback (WORDCOUNT)	**-.10**	**.08**	**1.48**	**.22**
[a] Omnibus test and model fit: χ^2 = 5,813.24, p < .001, d.f. = 7, log-likelihood = –176,207.69				